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THE ACTUAL OBJECTIVES OF THE PRESENT-DAY HIGH SCHOOL

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The high-school training of boys and girls, we are told with ever increasing frequency, should develop within them actually needed personal characteristics and abilities. The exact schedule of these abilities has not yet been agreed upon by our profession. But we are awake to the problem; and widespread discussion is well under way. An auspicious beginning has been made in the formulation of the specific abilities and characteristics.

The most authoritative statement of these objectives comes from the Commission on the Reorganization of Secondary Education. In their *Cardinal Principles of Secondary Education* they present seven general classes of objectives: (1) vocation; (2) citizenship; (3) health; (4) worthy use of leisure; (5) command of fundamental processes; (6) worthy home membership; (7) ethical character.

In the judgment of the commission, every high-school subject should be made as completely functional as possible in the sense of contributing to one or more of these objectives. They say:

> Each subject now taught in high schools is in need of extensive reorganization in order that it may contribute more effectively to the objectives outlined herein, and the place of such subject in secondary education should depend upon the value of such contribution.

Now to what extent, in the current school year, is the high school actually aiming at these objectives? And when not consciously aiming at them, to what extent are the subjects actually contributory to their attainment? And further, what subjects, if any, are taught which seemingly make no sufficient contribution to any of them?

For the purpose of obtaining some light upon the situation, the writer recently secured from fifty-one high schools, selected at random and distributed widely over the country, the daily programs of classes being conducted the first semester of the school year 1920–21. These were all of the general or cosmopolitan type. No technical high school was included, though in some the technical portion of the work was very fully developed. The purpose was to discover the subjects actually being taught, and the relative emphases upon them. The question asked was: "How many classes are being conducted daily in each subject?"

It was felt that a count of the number of classes daily in subjects would show actual relative valuations better than a count of the number of children taking each subject. With a given number of students in a subject, it may be handled perfunctorily and carelessly in a few large classes, or carefully and thoroughly in a larger number of relatively small classes. The percentage of daily classes, therefore, would be a better index of relative valuations and emphases than the percentage of children taking the subjects.

Since high schools are of different sizes, we have taken from each for study an equal unit, namely, one hundred daily classes: whether single or double periods; and we asked this question, "In each high school in each one hundred actual daily class recitations this current semester, how many are there in each subject?"

The composite situation for the country as exemplified in this group of high schools is shown in Table I. Since our purpose has been to discover the relation between the actual curriculum and the objectives considered desirable, we have presented subjects sometimes individually and sometimes grouped in various ways. The same subject, therefore, enters into the table more than once in most cases. Since specific subjects in certain well-known groups, as, for example, the science group or the mathematics group, aim at about the same objectives, these groups are not broken up into their specifics. The figures show the median number of classes per hundred in each subject or group of subjects.

The table is arranged so as to show at a glance the relative emphases upon different subjects and groups of subjects. It shows that vocational subjects are pushing to the fore. Classes aiming at vocational objectives are more numerous than those of any other group. English seems to be holding its own. The disciplinary subjects of mathematics and foreign languages, particularly the latter, are losing ground. The ancient languages have been outdistanced by the modern. German has disappeared from the curriculum, its place having been taken by French;

TABLE I

NUMBER OF DAILY CLASS GROUPS PER 100 IN EACH SUBJECT OR GROUP OF SUBJECTS IN THE 51 REPRESENTATIVE HIGH SCHOOLS*

		Median
1.	Occupational subjects (7, 16, 19, 21, 23, 26, 29, 30, 31, 32)	27.8
2.	Occupational subjects open to boys (7, 19, 21, 23, 26, 29, 30, 32)	20.7
3.	Occupational subjects open to girls (7, 16, 21, 26, 29, 30, 31)	20.7
4.	English	19.8
5.	Practical arts—all	13.9
6.	Mathematics	13.6
7.	Commercial subjects	11.5
8.	Social studies (15, 22, 25, 26, 29, 30)	10.7
9.	Science, physical and biological	9.7
10.	Practical arts open to boys	8.6
11.	History (15, 22, 29, 30)	8.1
12.	Practical arts open to girls	7.5
13.	Modern languages	6.7
14.	Latin	6.1
15.	Ancient and European history	5.2
16.	Household occupations	5.0
17.	Physical training: gymnasium, etc.	3.9
18.	French	3.7
19.	Shop activities for boys	3.5
20.	Spanish	2.9
21.	Drawing and design, freehand, etc.	2.9
22.	United States history	2.4
23.	Mechanical drawing	1.9
24.	Music	1.8
25.	Civics, social problems, sociology, etc.	1.5
26.	Economics	.4
27.	Physiology (in science department)	.1
28.	Hygiene and sanitation	.0
29.	Economic geography	.0
30.	Economic history	.0
31.	Teacher-training classes	.0
32.	Agriculture	.0

*Each subject is numbered. The numbers following certain subject groups show the individual subjects included. Where subjects are grouped, they were combined for each high school separately before medians were found. Adding the medians of individual subjects will not give quite the same figure and is not a valid method. A zero median means that fewer than one-half of the high schools had courses in the subject. For these, the higher percentiles, presented in other tables, show what is being done in this minority of progressive schools.

and Spanish has appeared as the second modern language. In both mathematics and foreign languages, however, there are more classes daily than in social subjects, science, citizenship training, health training, and other matters of pressing modern need. Social studies deal mainly with the past, those relating to current problems being found near the bottom of the list. Physical training is receiving considerable attention. Hygiene and sanitation are not taken seriously. The display would seem to indicate that we have few health problems. Judging from the number of daily classes, civics is considered of less importance than music, drawing, Spanish, French, manual training, cooking, Latin, ancient history, or algebra. The program would appear to indicate that citizens in a democracy have few civic problems, and those simple and easy as compared with Latin or algebra.

Let us, however, look at the subjects from the point of view of the objectives sanctioned by the national commission.

AMOUNT OF EFFORT MADE TO ACHIEVE THE VOCATIONAL OBJECTIVES

The tables show that on an average there are more classes daily devoted to the achievement of vocational objectives than to any other. Vocational subjects comprise about 28 per cent of the total actual curriculum. The more progressive half of high schools give one-third of their time to vocation; and the schools highest on the list give considerably more than a third of their time. Even those that are low on the scale are organizing numerous vocational classes. The lowest ten schools show an average of seventeen classes per hundred. This is higher than the average number of classes in any of the old-line subjects with the single exception of English; and it approaches the average of the English very closely.

When one inquires as to the practical justification of the large amount of high-school mathematics and physical science, usually the vocational justification is the one which is first presented. Thus, the amount of effort devoted to the attainment of vocational objectives is considerably greater than indicated by the foregoing figures. Naturally much of the vocational argument in favor of high-school mathematics and science is specious, since, for example, the algebra and geometry are of actual vocational value for practically none of the girls and for only a minority of the boys; and the same is true of much of the science. But the fact that the high school turns first to the vocational justification is further evidence of the growing valuation of vocational preparation.

When one looks to the amount of time devoted to the vocational subjects, it appears that we are doing very well. When, however, one looks at the details of the program, then one becomes less certain as to the sufficiency of our effort. Most boys, for example, who take cabinet-making, joinery, forge, foundry, machine-shop, printing, etc., do not really intend to become cabinet-makers, joiners, blacksmiths, foundrymen, machinists, or printers. The boys are not really aiming at preparation for their specialized callings. It is at least a fair question whether this shopwork or shop-play actually aims at attaining vocational objectives.

TABLE II

NUMBER OF DAILY CLASSES PER 100 IN VOCATIONAL SUBJECTS*

	Highest	Ninety Percentile	Q_3	M	Q_1	Ten Percentile	Lowest
All vocational	41.6	35.4	32.3	27.8	20.5	16.8	8.3
Vocational for boys	39.1	30.5	27.8	20.7	14.9	11.3	5.1
Vocational for girls	31.9	26.4	24.7	20.7	15.7	12.0	6.8
All practical arts	32.5	18.9	16.2	13.9	10.2	8.3	.0
Practical arts—boys	20.7	13.8	11.3	8.6	5.7	3.7	.0
Practical arts—girls	20.4	10.2	8.9	7.5	5.8	4.6	.0
Commercial	25.8	19.2	16.8	11.5	8.4	4.9	.0
Shop	12.1	6.7	5.4	3.5	2.1	.5	.0
Household occupations	17.4	6.3	5.7	5.0	3.6	2.1	.0
Drawing and design	6.3	4.4	3.6	2.9	1.3	.0	.0
Mechanical drawing	5.5	4.1	3.1	1.9	.8	.0	.0
Teacher training	2.1	1.2	.4	.0	.0	.0	.0
Agriculture	1.8	1.0	.0	.0	.0	.0	.0
Economic geography	2.6	1.5	.6	.0	.0	.0	.0
Economics	2.2	1.2	.6	.4	.0	.0	.0
Economic history	4.0	1.0	.0	.0	.0	.0	.0

* Where a portion of the range is made up of zeros, the actual situation is shown only in the positive portion. The lower zeros stand for unknown negative quantities.

One argument for diversified shop activities is the familiar vocational guidance "try-out" argument. Where the school offers only the conventional manual-training subjects, however, the "try-out" covers a very restricted range indeed. The things are few, conditions artificial, and the necessary responsibility lacking. And further, this argument cannot apply to that large percentage of boys taking these courses who have already decided to go into the professions or into commerce. Even for the few who are trying to decide whether they will become carpenters or blacksmiths—and they are very few indeed—it appears to be a pretty wasteful method, unless it is justified on other grounds at the same time.

There are other justifications for the manual training, but they relate to general training rather than to the specialized vocational.

1. It provides concrete experiences with the tools, materials, and processes employed in important economic fields. It gives the boys the alphabet of experience necessary for appreciating some of the labors of that complex economic world in which they must play their specialized parts.

2. It is preparation for the performance of many kinds of unspecialized activities about the house, furnace-room, garden, garage, motor car, etc. It is individually and socially economical for the individual himself to take care of a considerable number of miscellaneous mechanical labors rather than to turn them over to specialists. This diversity of experience is otherwise good for the individual in a number of ways. We cannot here enter into the arguments, but it appears that there is large justification, not well developed in our usual professional theory, for setting up a very considerable range of unspecialized abilities as educational objectives. These demand diversified experiences with tools, materials, and processes of kinds that the ordinary man currently meets with. It demands a program that is quite different in many respects from the conventional manual-training, mechanical-drawing program. The recent tendency in progressive high schools to introduce the assembling and disassembling of all sorts of familiar machines and contrivances, automobile adjustment and repair, furniture repair, short courses in many technical fields, as, for example, cement construction, sheet-metal work, painting and decorating, gardening, etc., appears to indicate a considerable recognition of these unspecialized objectives. It must be confessed, however, that for any such goals of effort the usual manual-training courses are in need of large readjustment.

3. There is the further argument of general physical and mental discipline through diversity of constructive experiences. Here also there is doubtless justification for a proper shop program. The disciplinary objectives, however, need to be more accurately defined; and the specific values of different manual-training activities for attaining these objectives need to be more accurately determined before we can decide as to the values for the purpose of the shop activities.

We must conclude that for boys, excepting for the commercial or clerical occupations, there is comparatively little training given which aims definitely at preparation for specialized vocation. There is a larger amount which aims at certain unspecialized abilities.

The occupational training of the girls appears to be rather more effective. It is true here also that except for the clerical occupations the high school is aiming at unspecialized activities. But woman's usual work in the home consists mainly of those unspecialized activities about the house which have not yet gone out into specialized industry. Therefore, in training girls for these unspecialized occupations, the school is aiming at the objectives appropriate for the large majority of the girls. For specialized vocations outside of the home into which women go, except for the clerical, not much is being done.

There is just one group of specialized occupations for which the high schools have set aside a considerable portion of the program, and which they are seriously attempting to develop, namely, the clerical and commercial occupations. In one of the high schools studied, 26 per cent of the daily classes were in commercial subjects. In four of the high schools more than 20 per cent of the classes were devoted to this work. The average of the highest dozen schools is about 19 per cent. When one looks to the entire range of vocational objectives desirable for a diversified population and also at other types of abilities to be developed outside of vocations, it seems pretty clear that in many high schools a disproportionately large amount of effort is being made in this field of commercial technique.

Just how well balanced the usual vocational program may be cannot be known until we have agreed as to the occupational objectives. It seems clear, however, that the vocational program is aiming in the main at manual and clerical technique; and that it is not aiming at abilities, attitudes, valuations, etc., of social type. Our most complex and difficult economic or occupational problems are not those of technique but rather those of social adjustment and control. These are our major civic problems as well. It seems that we should develop wide social vision relative to the entire economic or occupational world and a full understanding of the various social problems and their varied ramifications. It seems that there should be a greatly extended program of economics, economic history, economic geography, and a study of the civic problems of economic control. And yet, as we look at our tables, in the field of economics, there is a median of only four classes in every thousand. The subject is taught in only about half of the high schools. In only eight of the high schools does it embrace as much as 1 per cent of the daily classes. In the one giving most attention to the subject there are only 2.2 classes per hundred. Economic geography is given in only about one-third of the high schools. In these the average number of classes per hundred is only about one per day. Economic history is presented in fewer than a quarter of the high schools. In those in which it is found there is an average of about one class per hundred devoted to this subject. An outstanding exception is that of the North High School of Minneapolis in which there are four classes per hundred studying industrial history. It is an example greatly in need of wide imitation.

THE EFFORT MADE TO ATTAIN CIVIC OBJECTIVES

One's vocational abilities relate to a specialized and therefore relatively restricted field. One's civic activities relate to the entire field of civic and social adjustment and control. One's abilities, therefore, in the field of citizenship are to be developed in relation to the wide and infinitely complex fields of social phenomena. A mere glance over the problems confronting our citizenship as revealed in current discussions of press and forum reveals beyond a doubt that our greatest educational problems relate to the development of civic judgment, civic habits, knowledge, attitudes, sense of responsibility, etc. And what is more, it is clear that our problems are those of the third decade of the twentieth century. While present problems and conditions have grown out of previous ones, still many of the factors are relatively new and require solution on the basis of social, psychological, and biological *principles* rather than on the basis of historical precedent. Doubtless we need much history, both ancient and modern, for developing appreciations, attitudes, etc., and for laying broad foundations for an understanding of the present. Still, our major task is fitting men and women for the duties that are involved in current conditions.

For the purposes of this study as well as for the guidance of practical education we need a clear, particularized statement of *the abilities* of the good citizen which should be aimed at in his training. This is the first necessity—the prerequisite to every later step. Before we can ever fit a citizen for performing his proper functions, he must know what these functions are, and what civic abilities he must possess in order that he may perform them. And yet, obvious as this is, our profession has not yet made any concerted effort to develop such a set of particularized objectives. We aim at citizenship in vague, general ways; we do not aim at specific abilities. This being the situation, it is not possible for anybody with any degree of certainty to evaluate the effectiveness of the present "social studies." We can, however, present some of the facts relative to current practice.

Table III shows the situation in the fifty-one high schools analyzed. The median of the entire group shows that almost 11 per cent of the classes daily are in social studies of one kind or another. Most of these, however, deal with conditions and problems of the past; and about half of them with the past of foreign lands. Looking to the median, only about two classes in each hundred are dealing with current social problems of today. This is about one-tenth of the amount of time given to English; less than one-seventh of the time to algebra and geometry; one-third of the time to Latin. One might say that we are giving three times as much effort to the making of Romans as to the making of Americans. The median shows that economics, economic geography, and economic history are practically nonexistent. The relatively minute attention to these social studies of current conditions, problems, and duties appears to indicate that high schools in general do not yet consciously and seriously aim at fitting citizens for the performance of definite and actual civic functions. There are, however, notable exceptions. The North High School in Minneapolis has nine classes daily per hundred in the social subjects of civics, economics, industrial history, and economic geography. In Springfield, Illinois, there are eight classes per hundred; in Springfield, Missouri, six; in Lincoln, Nebraska, and the Yeatman High School, St. Louis, about five and a half; and almost as many in Chicago, Joliet, Erie, and Dayton. These head our list of fifty-one. If these are typical of progressive schools in general, we may conclude that in the more progressive 10 per cent of high schools there is an average of about six or seven classes per hundred in the more modern types of social studies. This is doing very well.

TABLE III

NUMBER OF CLASSES PER 100 IN CITIZENSHIP STUDIES

	Highest	Ninety Percentile	Q_3	M	Q_1	Ten Percentile	Lowest
All social studies	19.4	14.3	12.7	10.7	8.7	7.8	6.9
All history	19.4	11.6	10.3	8.1	6.6	5.4	3.5
Ancient and European history	13.1	8.4	7.3	5.2	4.0	2.9	1.8
United States history	6.3	3.9	3.0	2.4	1.8	1.0	.7
Civics	5.8	3.2	2.4	1.5	.8	.0	.0
Economics	2.2	1.2	.6	.4	.0	.0	.0
Economic geography	2.6	1.5	.6	.0	.0	.0	.0
Economic history	4.0	1.0	.0	.0	.0	.0	.0

The table shows very great diversity of practice; and therefore great diversity of professional ideas as to procedure; and probably as to aims. Classes in history range from three and a half to nineteen and a half per hundred. Ancient and European history ranges from less than 2 per cent up to more than 13 per cent; United States history from two-thirds of 1 per cent to more than 6 per cent; civics from 0 up to almost 6 per cent; economics from below 0 up to 2.2 per cent; economic geography from below 0 up to 2.6 per cent; economic history from very much below 0 up to 4 per cent.[1]

So long as we aim at citizenship in vague, general ways, this diversity must persist; and there can be no possible basis of judgment as to which type of procedure is correct.

Very frequently indeed it is said that we must go to the practices of the practical men in order to find out what to do. Table III presents a composite photograph of the practices. All sorts of things are being done. Present practices may guide us into doing anything, according to the ones we choose to follow. Practice is therefore no guide. There must be something over and beyond practice to guide it into and along proper channels, in terms of which we can evaluate varying practices.

There can be no solution but the assemblage of concrete verifiable evidence relative to the civic abilities needed on the part of individuals who make up the general population. When we have such scientifically determined objectives of citizenship, we can evaluate current courses of study. At present this is impossible. In this field, certainly, our profession yet dwells for the most part in the realm of guess and chance and whim. Not even the technique of scientific educational investigation in this field has been developed, much less made operative.

THE EFFORT MADE TO ATTAIN HEALTH OBJECTIVES

The statistical results of medical inspection, of the Life Extension Institute, of the military draft, etc., have been before the profession now for a number of years. We are relatively awakened to the surprisingly large quantity of physical invalidity in our population. We are coming to realize the seriousness of the situation not only for the individual but also for efficiency in vocations, in social adjustment and control, and in the promotion of the general welfare in all its aspects. As a matter of fact, all human welfare and all efficiency, personal, vocational, and otherwise, require the secure foundation of high physical vitality. We do not need longer to argue these things; and yet conditions are as shown in Table IV.

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[1] It must be observed that in these cases the measure of zero is not usually accurate. In the lower ranges it clearly means a negative quantity which cannot be measured. A negative quantity here means that a school not only does not have the subject, but that it is much below the point of being ready to introduce or even to consider the introduction of the subject.

The only thing that seems to be taken seriously in this field on the part of the majority of schools is the so-called physical training—the gymnastics, athletics, and swimming. All except eight of the schools have physical training as a portion of the regular daily program. The variation in emphasis, however, is very great, ranging from a zero median for the lowest 20 per cent of the schools up to 7 per cent of the daily classes in the upper 20 per cent of the schools; and as high as 13½ per cent in two schools which stand at the head of the list. It is obvious that this work is handled in large classes and at relatively infrequent intervals in some schools, and in small classes meeting relatively frequently in other schools. In those having the largest number of daily classes in such activities, probably sufficient emphasis is given to the matter, though there is no present means of knowing what is a proper emphasis. All practices—and all judgments—are but guesses.

TABLE IV

NUMBER OF CLASSES PER 100 ENGAGED IN HEALTH TRAINING

	Highest	Ninety Percentile	Q_3	M	Q_1	Ten Percentile	Lowest
All health training	15.5	8.8	5.8	4.5	3.0	1.3	0.0
Physical training	13.6	7.2	5.5	3.9	2.9	.0	.0
Physiology and hygiene (combined)	4.1	1.9	1.2	.4	.0	.0	.0
Physiology (alone)	4.1	1.6	.7	.1	.0	.0	.0
Hygiene (alone)	2.8	.7	.0	.0	.0	.0	.0

This physical training has relatively little relation to a large number of health problems which are in pressing need of educational attention. It concerns itself very little with matters of food, ventilation, sleep, mental states, micro-organisms, physical cleanliness, elimination of wastes, temperature control, postures most of the day, the daily program of work and rest, prevention of accidents, care of eyes, teeth, nose, ears, throat, etc. In these fields individuals need a large body of information, diverse powers of judgment, correct health habits, right attitudes of mind toward both facts and practical procedures, etc. These objectives demand a wide health-training program in addition to the program of muscular exercise. It seems, however, that in the majority of high schools this program is almost wholly unrecognized except on the informational side, and very little recognized even on the informational side. Courses bearing the titles of hygiene or sanitation are found in only eight schools out of fifty-one; in those there were somewhat less than 1 per cent of the classes. Classes in physiology, almost always classified with the department of science rather than health training, are, in considerable measure at least, dealing with science matters involved in the physical health situation. Classes in physiology are found in just half of the institutions and range from one class per thousand up to forty-one classes per thousand. When we note that the zeros below the median refer to different degrees of approach to the beginning of this work, it is clear the diversity of practice is very great indeed. For the sake of fairness we have combined all courses labeled hygiene and all courses labeled physiology; and when thus combined, such courses are found in only twenty-seven of the fifty-one institutions, the median being four classes per thousand, or practically zero. Except for the program of muscular exercises, the effort in this field is tragically inadequate.

The degree of inadequacy of the training is not realized by the profession because we have not particularized the health-training objectives. Before we can decide how much time and what proportion of emphasis is to be given to these various matters, it is indispensable that we decide professionally as to the particular abilities, habits, valuations, etc., which must be possessed by individuals. Until this is done, administrative officials may guess in these various diverse ways; and the diversity is proof that they are only guessing. Administration is not yet upon the basis of known facts and needs.

EFFORT MADE TO TRAIN FOR WORTHY USE OF LEISURE

It is much more difficult to decide which of the high-school studies are intended to train for leisure occupations. Obviously music is for this purpose. Drawing and design were classified in the vocational group because of the increasing degree in which they relate to constructive activities, especially those of girls. In considerable measure, however, the drawing is for art appreciation and sometimes even art activities of the leisure type. A third matter to be classified in this field is literature. It is, however, impossible from these schedules of classes to segregate the training in literature from that in English expression. In so far as the physical training involves athletics, outdoor sports and games, dancing, swimming, etc., clearly it consists of physical activities of the play type, and is in some measure training for adult leisure occupations.

TABLE V

NUMBER OF CLASSES PER 100 IN SUBJECTS THAT ARE IN PART TRAINING FOR LEISURE ACTIVITIES

	Highest	Ninety Percentile	Q_3	M	Q_1	Ten Percentile	Lowest
English	27.7	22.7	21.4	19.8	18.1	16.9	14.2
Physical training	13.6	7.2	5.5	3.9	2.9	.0	.0
Drawing and design	6.3	4.4	3.6	2.9	1.3	.0	.0
Music	7.6	2.9	2.4	1.8	.8	.0	.0

Table V shows the relative number of classes in the fields that are in part at least regarded as training for leisure occupations. Here again we note the usual diversities. Music is neglected in the program of some schools. It is given at least reasonably large attention in occasional schools. The median emphasis appears to be considerably less than its actual worth to that portion of the population which goes through high school. Art training is equally diversified. English, half or more of which is literature, ranges from 14 per cent of the classes up to almost exactly twice that amount.

Doubtless a sufficient proportion of the time is given to English literature. It is even possible that there is too much teaching. This is not to say that there should be less training in English literature as leisure occupation. There probably should be more, if anything, than that which is usually obtained by graduates of our high schools. In so many cases they seem not actually to have acquired leisure reading habits of desirable type. It is doubtful whether this leisure occupation is to be developed except through a plan of training which is mainly not teaching but rather a leisure occupation, and therefore consumes less teaching time.

As to the training in literature, however, as well as to the rest of the training in this field, no one can have any secure judgment as to what ought to be until we have decided professionally the kinds of activities which should make up a worthy use of leisure time and a proper balance in the utilization of these activities. Naturally the program of different individuals must vary with their natures. This is to say, however, that they should vary upon the basis of considerations which can be objectively determined, not upon the mere basis of guess and whim and chance.

This composite photograph of the situation does not show us what to do, for the simple reason that we cannot know which of the varied types of practice is the best. The figures have value only in helping us to a realization of the need of a better definition of the goals of effort. They show the futility of trying to use current practice as a basis of finding out what to do.

There is another series of high-school activities of which the objectives are confused and vague; so much so that purposes are rarely considered in their actual organization and administration. We here refer to several of the more traditional subjects: algebra, geometry, Latin, French, Spanish, ancient and European history, and science of the usual pure or unapplied type. Quite obviously, the ancient history relates itself much more closely to literature and general reading as leisure occupation than it does to social studies intended for citizenship. The French is probably usually a leisure occupation or a means to the leisure occupation of reading French literature. This is probably the only justification for the Latin or Spanish in the case of most children. Algebra and geometry are delightful studies of the intellectual play type during high-school days; and for most pupils they do not look forward to practical activities after school days.

Except as these subjects are justified vaguely on civic or vocational grounds, the more frequent justification in the minds of most teachers and administrators appears to be intellectual discipline. The "general discipline" objective, however, is not found in the list recommended by the national commission. There probably is a certain general mental efficiency just as fully as there is a certain general physical efficiency. Could we have a satisfactory statement of the nature of general mental efficiency, then it would probably be found that these traditional subjects are of large value in attaining it. It must be observed, however, that there is on the one hand the *development* of general mental efficiency, and on the other hand its *maintenance* throughout life. In large measure it is to be developed through intellectual activities of the play type; and in equally large measure it is to be maintained throughout life by means of intellectual activities of the play type. It is probable that we shall have to classify these general disciplinary subjects along with or at least in close proximity to the subjects and activities which are clearly and consciously of leisure type.

TABLE VI

NUMBER OF CLASSES PER 100 IN DISCIPLINARY SUBJECTS

	Highest	Ninety Percentile	Q_3	M	Q_1	Ten Percentile	Lowest
Mathematics	23.2	18.6	16.3	13.1	11.2	10.3	8.5
Science	18.3	13.2	11.7	9.7	7.8	6.5	5.1
History	19.4	11.6	10.3	8.1	6.6	5.4	3.5
Latin	14.4	9.2	7.6	6.1	4.4	3.6	2.6
French	9.7	5.8	4.7	3.7	2.9	2.2	1.7
Spanish	6.4	5.6	4.4	2.9	1.7	1.3	.0

The diversities in the number of classes in these subjects are shown in Table VI.

It cannot be supposed that there is any actual diversity in the need of disciplinary subjects that corresponds to the diversity of emphasis in different high schools. The mathematics in one school receives three times as much emphasis as in another school. In science the range is three and a half times the lowest; in history and Latin more than five times; in French six times; and in Spanish the highest is seven times the lowest.

When one looks not at the extremes, however, but at the medians of the upper 20 per cent as compared with the medians of the lower 20 per cent of the schools, it is to be noted that there is a wide range in the degree of emphasis. In certain fields of specialized training we may expect considerable legitimate differences among high schools; but in the field of general intellectual training such diversity of need is highly improbable. It is to be explained as we have explained the diversity in the other instances: our profession has not determined the objectives to be aimed at in the use of these more traditional subjects with any degree of definiteness; we are therefore not yet in position to make decision relative to proper amounts of time and effort to give to the several subjects. Here again it is not actual scientifically verifiable goals of training which are dictating the degrees of emphasis; but rather, as before, it is guess and predilection and the compromise of powerful academic interests.

Doubtless some of these subjects receive more attention than they deserve and others less than they deserve. Actual practice, however, because of its diversity gives us no clue as to what ought to be; and at present there is neither individual nor official body that can speak with any authority by way of pointing out which of the actual practices is best. They can only present their guesses. The thing is yet impossible because the bases of judgment have not yet been scientifically established. These things can, however, be determined when our profession is willing to set about it. Our purpose here is to present evidence in the variety of practices which indicate that we do not professionally know our own minds; that current practice does not show us what to do since it does not reveal which type of practice is the best; and that the problem is not to be solved except through a particularization of the abilities which are to be developed by education.

Following precedent is valuable for "playing safe," but not good for developing efficiency in work. It is the accepted and respectable mode of evading the careful and laborious study of actual needs. But the latter is for us the road to science. Some day, let us hope, obedience to the dictates of science will be the surest and the socially sanctioned mode of playing safe.